

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

CYWEE GROUP LTD.,	§	
	§	
Plaintiff,	§	
	§	
v.	§	No. 2:17-CV-00140-WCB-RSP
	§	
SAMSUNG ELECTRONICS CO., LTD.	§	
and SAMSUNG ELECTRONICS	§	
AMERICA, INC.,	§	
	§	
Defendants.	§	

**CLAIM CONSTRUCTION OPINION AND ORDER**

**I. BACKGROUND**

This lawsuit concerns U.S. Patents 8,441,438 and 8,552,978, each of which teach a “pointing” device that translates its own movement relative to a first reference frame into a movement pattern in a display plane of a second, display reference frame. Because the display plane is chosen to correspond with a particular display device, such as a computer screen, an associated processor generating a display signal to the display device can then “move” an indicator (e.g., a computer icon or cursor) on the display according to the movement pattern. ’438 Patent at (57); ’978 Patent at (57).

This general concept predates the asserted patents. *See, e.g.*, ’438 Patent at 2:38–47 (referencing prior art). The patents, however, specifically purport to solve a prior-art problem of inaccurately calculating the change in angular velocities and accelerations of the

device when subjected to unexpected movements, particularly in a direction parallel to the force of gravity. *See id.* at 2:55–3:5. The patents also criticize the prior art for outputting only a two-dimensional movement pattern. *See id.* at 2:47–55 (“the pointing device of Liberty cannot output deviation angles readily in [a] 3D reference frame but rather a 2D reference frame only and the output of such device having 5-axis motion sensors is a planar pattern in [a] 2D reference frame only”).

To address these shortcomings, the ’438 Patent teaches (1) use of various sensors to measure angular velocities and axial accelerations along three reference axes of the device, and (2) predicting the axial accelerations along three reference axes from the measured angular velocities. The claimed device uses the measured angular velocities, measured axial accelerations, and predicted axial accelerations to calculate a deviation of the yaw, pitch, and roll angles of the device over time. The claimed device then translates that deviation into a movement pattern within the display reference frame. *See generally* ’438 Patent at 7:56–9:5.

The ’978 Patent, which is a continuation-in-part of the ’438 Patent, adds magnetism to the methodology. Specifically, a magnetometer measures magnetism associated with three reference axes of the first reference frame. The ’978 Patent also teaches predicting the magnetism associated with each of the three axes and using both the measured and predicted magnetisms—along with the measured angular velocities, measured axial accelerations, and predicted axial accelerations already contemplated by the ’438 Patent—to

determine deviation of the yaw, pitch, and roll and translate the resultant angles to a movement pattern in a display reference frame. *See generally* '978 Patent at 22:9–23:8; *see also*, *e.g.*, *id.* fig.8 items 745, 750, fig. 11 items 1160, 1165.

## **II. GENERAL LEGAL STANDARDS**

### **A. Claim Construction**

“[T]he claims of a patent define the invention to which the patentee is entitled the right to exclude.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc). As such, if the parties dispute the scope of the claims, the court must determine their meaning. *See, e.g.*, *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 390 (1996), *aff’g*, 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc); *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1317 (Fed. Cir. 2007).

When construing claims, “[t]here is a heavy presumption that claim terms are to be given their ordinary and customary meaning.” *Aventis Pharm. Inc. v. Amino Chems. Ltd.*, 715 F.3d 1363, 1373 (Fed. Cir. 2013) (citing *Phillips*, 415 F.3d at 1312–13). Courts must therefore “look to the words of the claims themselves . . . to define the scope of the patented invention.” *Id.* (citations omitted). The “ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips*, 415 F.3d at 1313. This “person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Id.*

Intrinsic evidence is the primary resource for claim construction. *See Power-One, Inc. v. Artesyn Techs., Inc.*, 599 F.3d 1343, 1348 (Fed. Cir. 2010) (citing *Phillips*, 415 F.3d at 1312). For certain claim terms, “the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.” *Phillips*, 415 F.3d at 1314. But for claim terms with less-apparent meanings, courts consider “those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean . . . [including] the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.” *Id.*

## **B. Indefiniteness**

“A patent’s specification must ‘conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as [the] invention.’” *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1340 (Fed. Cir. 2015) (quoting 35 U.S.C. § 112 (pre-AIA), ¶ 2). “A patent is indefinite ‘if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.’” *Id.* (quoting *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014)). “The definiteness requirement must take into account the inherent limitations of language.” *Id.* Thus, “[s]ome

modicum of uncertainty . . . is the ‘price of ensuring the appropriate incentives for innovation.’” *Nautilus, Inc.*, 134 S. Ct. at 2128 (quoting *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 732 (2002)). Nonetheless, “a patent must be precise enough to afford clear notice of what is claimed, thereby appris[ing] the public of what is still open to them.” *Id.* at 2129 (internal quotation marks and citations omitted).

Indefiniteness is a question of law that is reviewed de novo. *Teva Pharm. USA, Inc.*, 789 F.3d at 1341. It must be proven by clear and convincing evidence. *Halliburton Energy Servs., Inc. v. M-I, LLC*, 514 F.3d 1244, 1249–50 (Fed. Cir. 2008).

### III. AGREED CONSTRUCTIONS

The parties agree to the following constructions, which the Court hereby adopts. Joint Cl. Constr. & Prehearing Statement [Dkt. # 57] at 1–2.

Claim Term	Agreed Construction
calculating predicted axial accelerations Ax’, Ay’, Az’ based on the measured angular velocities $\omega_x$ , $\omega_y$ , $\omega_z$ of the current state of the six-axis motion sensor module without using any derivatives of the measured angular velocities $\omega_x$ , $\omega_y$ , $\omega_z$ (’438 Patent, cl.14, 19)	plain and ordinary
detecting and generating a first signal set (’438 Patent, cl.1)	plain and ordinary
detecting and generating a second signal set (’438 Patent, cl.1)	plain and ordinary

resulting deviation comprising resultant angles in said spatial pointer reference frame; resulting deviation comprising said resultant angles in said spatial pointer reference frame of the 3D pointing device ('438 Patent, cl.1, 14, 19)	plain and ordinary
the measured state includes a measurement of said second signal set and a predicted measurement obtained based on the first signal set without using any derivatives of the first signal set ('438 Patent, cl.1)	the measured state includes a measurement of axial accelerations and predicted axial accelerations calculated using the angular velocities without computing derivatives of said angular velocities (i.e. angular accelerations)
spatial pointer reference frame; spatial pointer reference frame of a three-dimensional (3D) pointing device; spatial reference frame of the 3D pointing device ('438 Patent, cl.1, 4, 14, 15, 19)	frame of reference associated with the 3D pointing device, which always has its origin at the same point in the device and in which the axes are always fixed with respect to the device
spatial reference frame; spatial reference frame associated with the 3D pointing device ('978 Patent, cl.10)	frame of reference associated with the 3D pointing device, which always has its origin at the same point in the device and in which the axes are always fixed with respect to the device

#### IV. DISCUSSION—A PERSON OF ORDINARY SKILL IN THE ART

The parties provide similar definitions of a person of ordinary skill in the relevant art (POSA). According to CyWee, a POSA “at the time of the filing of the [asserted] patents would typically have at least a Bachelor’s Degree in Computer Science, Electrical Engineering, Mechanical Engineering, or Physics, or equivalent work experience, along with knowledge of sensors (such as accelerometers, gyroscopes, and magnetometers), and mobile computing technologies.” LaViola Decl. (Feb. 23, 2018) [Dkt. # 66-6] ¶ 11. According

to Defendant, a POSA had “a computer science, electrical engineering, mechanical engineering, or other related technical degree at the undergraduate level, and knowledge of sensor systems[, although] [s]uperior experience in one of these areas could compensate for lesser experience in the other.” Mercer Decl. (Mar. 9, 2018) [Dkt. # 67-1] ¶ 40.

Neither party, however, specifically argues that the difference in proffered constructions or indefiniteness positions is attributable to the difference, if any, between these levels of ordinary skill. Accordingly, the Court considers the difference in proffered levels of skill immaterial to its analysis.

## V. DISCUSSION—CONSTRUCTION OF DISPUTED TERMS

### A. “3D pointing device” (’438 Patent, claims 1, 3–5, 14–17, 19; ’978 Patent, claim 10)

CyWee’s Proposed Construction	Defendants’ Proposed Construction
Not necessary. Alternatively, “a handheld device that includes at least one or more accelerometers and a magnetometer, and optionally a rotation sensor comprising one or more gyroscopes, and uses them to determine deviation angles or the orientation of a device.”	a device that detects the motion of the device in three dimensions and translates the detected motions to control the movement of a cursor or pointer on a display

CyWee argues this term does not require construction, but nonetheless proposes an alternative construction that adds accelerometers, magnetometers, and gyroscopes. Pl.’s Br. [Dkt. # 66] at 13–17. Defendants contend this term requires the device to control the move-

ment of a cursor or pointer on a display. Defs.’ Br. [Dkt. # 67] at 17–22. Such a construction, say Defendants, is proper because it conforms to the patents’ usage of the term in the specifications and because it is consistent with every embodiment disclosed in the patents. *Id.* at 18–19. Moreover, this construction is supported by the relevant extrinsic evidence. *Id.* at 20–22.

A court normally has no obligation to provide a special definition for terms, like this one, that have a widely understood ordinary meaning, as long as the court is persuaded that the patent uses the terms in the ordinary sense. *See Phillips*, 415 F.3d at 1314 (“[T]he ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.”); *see also Eon Corp. IP Holdings v. Silver Springs Networks*, 815 F.3d 1314, 1329 (Fed. Cir. 2016) (Bryson, C.J., dissenting) (“[T]here is ordinarily no obligation to provide a special definition for terms that have a widely understood ordinary meaning, as long as the court is persuaded that the patent uses the terms in that ordinary sense.”). Here, each of the phrase’s constituent parts has a widely understood ordinary meaning consistent with their usage in the patent, which is evidenced by Defendants’ use of two of the terms in their proposed construction. And considering the phrase as whole does not impart any different meaning to those terms, Defendants’ proposed construction is unnecessary and this term requires no special definition.



**B. “six-axis motion sensor” / “six-axis motion sensor module” (’438 Patent, claims 1, 5, 14–17, and 19)**

<b>CyWee’s Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
Not necessary. Alternatively, “a collection of components comprising a rotation sensor comprising one or more gyroscopes for collectively generating three angular velocities and one or more accelerators for collectively generating three axial accelerations where said gyroscopes and accelerometer(s) are mounted on a common PCB”	a module consisting of two types of sensors: (i) a rotation sensor and (ii) one or more accelerometers

Defendants contend the patentee limited the scope of this term in two ways. First, Defendants argue the patentee defined “six-axis” to mean “the three angular velocities  $w_x$ ,  $w_y$ ,  $w_z$  and the three axial accelerations  $A_x$ ,  $A_y$ ,  $A_z$ .” Defs.’ Br. [Dkt. # 67] at 23 (citing ’438 Patent at 8:10–12). Second, Defendants contend the patentee disavowed claim scope by arguing, in response to a double-patenting rejection, the ’438 Patent “includes the claimed subject matter of a six-axis motion sensor module without having and using measured magnetisms and predicted magnetisms.” Defs.’ Br. [Dkt. # 67] at 23–24. (citing Apr. 17, 2013 Amendments [Dkt. # 67-13] at 10).

Defendants’ “lexicography” argument is not persuasive. Although the patent defines “six-axis,” it does *not* define “six-axis module” or “six-axis sensor” as limited to a device that only measures three angular velocities and three axial accelerations. Rather, the patent simply uses “six-axis” to refer to the relevant axes of the invention, and nothing in the patent suggests “six-axis” cannot mean “at least six axes.” As such, the patent does not so

clearly redefine the term so as to justify Defendants’ proposed construction. *See Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014) (“The standards for finding lexicography . . . are exacting. ‘To act as its own lexicographer, a patentee must clearly set forth a definition of the disputed claim term other than its plain and ordinary meaning’ and must ‘clearly express an intent to redefine the term.’” (quoting *Thorner v. Sony Comput. Entm’t Am., LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012))).

Nor is Defendants’ “disavowal” argument persuasive. In the amendments, the patentee simply pointed the examiner to one difference between the patent’s claims and those of the pending application to overcome a double patenting rejection. That is not the “clear and unmistakable disavowal” required to narrow the meaning of claim language. *See Hill-Rom Servs., Inc.*, 755 F.3d at 1372 (noting disavowal requires the prosecution history to clearly indicate the invention excludes a particular feature or limits the invention to a particular form); *Albany Molecular Research, Inc. v. Dr. Reddy’s Labs., Ltd.*, No. 09-4638 (GEB-MCA), 2010 WL 2516465, at \*4 (D.N.J. June 14, 2010) (concluding that pointing the examiner to one difference in the claims to overcome a double patenting rejection is not “clear disavowal” of claim scope).

Having rejected Defendants’ proposed construction, no further construction is necessary.

**C. “global reference frame associated with the Earth” (’978 Patent, claim 10)**

<b>CyWee’s Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
Not necessary. Alternatively, “reference frame with axes defined with respect to Earth”	an Earth-centered coordinate system with an origin and a set of three coordinate axes defined with respect to Earth

The parties agree this term requires axes defined with the respect to the Earth, but dispute (1) whether the frame requires three axis, and (2) whether the term requires the origin of the reference frame to be near the Earth’s center. CyWee argues “global reference frame” is a commonly used term of art that refers to a fixed frame. Pl.’s Br. [Dkt. # 66] at 26–27 (citing LaViola Decl. ¶ 30). Relying solely on extrinsic evidence, Defendants contend the term requires a reference frame with an origin at the Earth’s center of mass. Defs.’ Br. [Dkt. # 67] at 26–27.

The Court rejects Defendants’ proposed construction for three reasons. First, there’s no need to construe the term as having a set of three coordinate axes, as that requirement is already recited in the claim. ’978 Patent at 36:65–67 (reciting a device “associated with three coordinate axes of a global reference frame associated with Earth”). That suggests the reference frame may have more than three axes. *See Primos, Inc. v. Hunter’s Specialties, Inc.*, 451 F.3d 841, 847 (Fed. Cir. 2006) (noting that when the claims use separate terms, “each term is presumed to have a distinct meaning”). Second, nothing in the intrinsic evidence requires the “global reference frame” to have an origin at Earth’s center.

Finally, there’s no technical reason why the claimed invention would require any

reference frame to have a specific origin given the ease with which a point in one frame can be mapped to another frame. Indeed, the '978 Patent's use of "frame associated with" throughout the specification shows the location of the reference frame's origin is not important. In addition to a "global reference *frame associated with* the Earth," the patent refers to a "spatial pointer reference *frame associated with* the pointing device," *id.* at 1:42–43, and "a display reference *frame associated with* [a] display," *id.* at 13:14–15. But the specification does not show or describe these reference frames as having an origin at the center of the associated structure. *See, e.g.,* '978 Patent fig.1 (showing the display frame as having an origin that does not intersect the 2D display device 120 and screen 122); *supra* at 6–7 (reciting the parties' agreed construction for "spatial reference frame," which only requires the origin of the reference frame be "at the same point in the device" and "always fixed with respect to the device"). The patent provides no reason to think "global reference frame associated with the Earth" should be interpreted more stringently. Accordingly, the Court construes the term as "reference frame with axes defined with respect to the Earth."

**D. "using the orientation output and the rotation output to generate a transformed output associated with a fixed reference frame associated with a display device" ('978 Patent, claim 10)**

CyWee's Proposed Construction	Defendants' Proposed Construction
using the orientation output and the rotation output to generate a transformed output represented by a 2-dimensional movement in a fixed reference frame that is parallel to the screen of a display device	using the orientation output and rotation output to generate a transformed output representing a two-dimensional movement in a fixed reference frame that is parallel to the screen of the display device

The parties propose similar constructions, but dispute whether (1) the transformed output represents two-dimensional movement, or (2) the two-dimensional movement represents the transformed output. CyWee argues that Defendants’ construction limits the transformed output to representing only two-dimensional movement. Pl.’s Br. [Dkt. # 66] at 28. Defendants contend the specification clearly reflects that the “transformed output” is a two-dimensional vector representing two-dimensional movement. Defs.’ Br. [Dkt. # 67] at 25.

Contrary to CyWee’s position, the patent indicates the transformed output represents movement—not the other way around. In fact, Defendants’ proposed construction is taken almost verbatim from the specification. *See* ’978 Patent at 31:51–32:3 (“The transformed output . . . represents a 2-dimensional movement in a display plane in the fixed reference frame.”). Nonetheless, there’s no reason the claim scope should be limited to representing only two-dimensional movement given that the passage on which Defendants rely only relates to a particular embodiment. *See Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 904 (Fed. Cir. 2004) (“Even when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using ‘words or expressions of manifest exclusion or restriction.’” (quoting *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1327 (Fed. Cir. 2002))). In fact, the specification contemplates that a 2D reference frame may be just one type of possible display reference frame. *See* ’978 Patent at 12:48–58 (referring to mapping the calculated deviation “to a display reference frame such as a 2D reference

frame”). Accordingly, the Court construes the term as “using the orientation output and rotation output to generate a transformed output representing a movement in a fixed reference frame that is parallel to the screen of the display device.”

## **VI. DISCUSSION—INDEFINITENESS**

Defendants challenge a number of claims terms as indefinite:

- utilizing a comparison to compare the first signal set with the second signal set (’438 Patent, cl.1);
- comparing the second quaternion in relation to the measured angular velocities  $\omega_x$ ,  $\omega_y$ ,  $\omega_z$  of the current state at current time T with the measured axial accelerations  $A_x$ ,  $A_y$ ,  $A_z$  and the predicted axial accelerations  $A_x'$ ,  $A_y'$ ,  $A_z'$  also at current time T (’438 Patent, cl.14, 19); and
- generating the orientation output based on the first signal set, the second signal set and the rotation output or based on the first signal set and the second signal set (’978 Patent, cl.10).

These phrases, say Defendants, render the associated claims indefinite for three reasons. First, the “second signal set” includes axial accelerations, and a POSA would recognize an “axial acceleration” could be any one or more of (a) linear accelerations, (b) centrifugal accelerations, and (c) gravitational accelerations. Thus, a POSA would not know how to compare the first signal set of angular velocities with the second signal set of axial accelerations. Second, a POSA could not “decompose” the acceleration reading measured by an accelerometer into separate linear, rotational, and gravitational components because accelerometers do not contain information regarding the source or type of force underlying

the measured acceleration. Finally, Defendants claim a mathematically meaningful comparison between angular velocities and axial accelerations is impossible.

#### **A. Axial Accelerations**

The patent is clear that “axial accelerations” refers to the acceleration vectors along three axes of the associated reference frame. Thus, regardless of whether the pointing device is undergoing linear, centrifugal, and/or gravitational acceleration, at any instant the acceleration of the device can be represented by vectors along axes of the chosen reference frame. In other words, while the type of acceleration may affect the magnitudes and rates of change of the vectors, the total acceleration can nonetheless be represented by axial accelerations  $A_x$ ,  $A_y$ , and  $A_z$  in the associated reference frame at any instant. The asserted patents are therefore not indefinite on this basis.

#### **B. Decomposing the Acceleration Reading by an Accelerometer**

Defendants next argue that a POSA could not “decompose” the acceleration reading measured by an accelerometer into separate linear, rotational, and gravitational components, because accelerometers do not contain information regarding the source or type of force underlying the measured acceleration. This, however, is not an indefiniteness argument, but an argument directed to inoperability or lack of enablement. *See EMI Group North America, Inc. v. Cypress Semiconductor Corp.*, 268 F.3d 1342, 1348 (Fed. Cir. 2001) (“A claimed invention having an inoperable or impossible claim limitation may lack utility under 35 U.S.C. § 101 and certainly lacks an enabling disclosure under 35 U.S.C. § 112.”). The Court therefore declines to address the merits of this argument in the context of claim

construction. The claims are not rendered indefinite on this ground.

### **C. A Mathematically Meaningful Comparison**

Finally, Defendants claim a meaningful comparison between angular velocities and axial accelerations is “mathematically impossible.” If “axial acceleration” means either linear or gravitational acceleration, Defendants contend those types of accelerations cannot be compared with angular velocity. Defs.’ Br. [Dkt. # 67] at 5–6. If, however, “axial acceleration” refers to centrifugal acceleration, Defendants say a POSA would require more data. *Id.* at 6 (relying on *Invensys Sys., Inc. v. Emerson Elec. Co.*, No 6:12-cv-799, 2014 WL 3976371 (E.D. Tex. Aug. 6, 2014)).

CyWee counters with two arguments. First, CyWee notes this argument was rejected in other proceedings involving the same patent. Pl.’s Br. [Dkt. # 66] at 8–9 (citing *Cywee Group Ltd. v. Apple Inc.*, No. 14-cv-01853-HSG, 2015 WL 5258728, at \*4 (N.D. Cal. Sept. 9, 2015), in which the court concluded the defendant’s position was overly rigid and that the specification adequately describes how deviation angles can be used to compare the signal sets). Second, rather than a direct comparison between measurements with different dimensions, the patent defines “comparison” as “the calculating and obtaining of the actual deviation angles of the 3D pointing device.” *Id.* at 9. CyWee argues the patent discloses an extended Kalman filter that allows the comparison between angular velocities and axial accelerations. *Id.*

The primary case on which Defendants rely, *Invensys Systems*, is distinguishable. There, the disputed claim language recited a specific algebraic operation: calculating a dot



product of (1) a normalized pulsation and (2) a series of sensor signals. *Invensys Sys., Inc.*, 2014 WL 3976371, at \*4–5. The patent limited the “normalized pulsation” to one number, yet the dot-product operation requires two equal-length series of numbers. *Id.* at \*5. Because the sensor signals were series (i.e., more than a single number), the court concluded the claim language required a mathematically impossible step because it was not performable as claimed. *Id.*

The present facts are distinguishable from *Invensys*. Here, the disputed claim language does not recite a precise mathematical operation, but rather the “comparison” of two signal sets with different measurements. The patents acknowledge the methodology does not invoke a precise apples-to-apples comparison and requires some conversion. *See, e.g.*, ’438 Patent at 12:39–60 (providing “a data conversion utility to convert the angular velocities  $\omega_x$ ,  $\omega_y$ , and  $\omega_z$  into the second quaternion”); *id.* at 13:32–37 (noting “it is preferable to compare the second quaternion . . . with the measured axial accelerations  $A_x$ ,  $A_y$ ,  $A_z$ ”). *Compare Cywee Group Ltd.*, 2015 WL 5258728, at \*4 (“The specification also describes how those deviation angles may be used to compare the signal sets—for example, through the use of quaternions.”). For this invention, that’s sufficient to be “meaningful.”

For these reasons, the Court finds the specification sufficiently informs a person having ordinary skill how to compare the signal sets with reasonable certainty. Defendants, therefore, have not shown these claims are indefinite by clear and convincing evidence.

## VII. ORDER

The Court **ORDERS** each party not to refer, directly or indirectly, to its own or any

other party's claim construction positions in the presence of the jury. Likewise, the Court **ORDERS** the parties to refrain from mentioning any part of this opinion, other than the actual positions adopted by the Court, in the presence of the jury. Any reference to claim construction proceedings is limited to informing the jury of the positions adopted by the Court.

**SIGNED this 9th day of July, 2018.**

  
ROY S. PAYNE  
UNITED STATES MAGISTRATE JUDGE